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## MOVABLE KIDNEY.\*

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I desire to call the attention of the society to the subject of movable kidney, especially as met with in women. In order that my remarks may not exceed the brief limit prescribed by the society, I shall limit myself to my own investigations concerning this condition. It will be seen that in most respects my observations and conclusions are similar to those of other gynecologists, who have studied this subject.

Frequency.—A movable and displaced kidney is a very common condition among women. I find that about one-fourth of my patients have a movable kidney. I do not affirm that this is true of the community at large, but only of the class of patients that consult a gynecologist. The right kidney is much more frequently displaced than the left; indeed, I have not seen the left kidney displaced independently of the right. In about every tenth case both kidneys are displaced, the right usually more than the left.

Causation.—Various causes have been assigned for the occurrence of movable kidney, such as falls, pregnancy and tight lacing. My experience leads me to believe that these causes are operative in only a limited number of the cases. With one exception all the patients having a movable kidney that I have seen have been thin, that is the supply of adipose tissue has been abnormally small. The single exception was a woman having a pendulous abdomen, with a resulting downward displacement of most of the abdominal viscera. I find movable kidney very frequent among the well-to-do and the poor, the married and the single, the fertile and the sterile, and the one point that they all have in common is that they are thin, or even emaciated. This experience leads me to believe that the lack or the loss of adipose tissue, is the underlying cause of movable kidney. Anatomical considerations also favor this view, as the kidney has no proper ligaments, but is held in place by the cellulo-adipose layer of tissue in which it is embedded. I have no doubt that tight lacing, laborious work, and multiple pregnancies, leading to relaxation of the abdominal walls, are factors in the production of movable kidney in certain cases, but they are most apt to

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displace the kidney when it is poorly supported owing to the absence of a normal deposit of fat in the renal region.

Symptoms.—The symptoms of movable kidney are both reflex and local. The reflex symptoms are sometimes general, but more usually abdominal. Many patients are extremely nervous, having the manifold symptoms which accompany an irritable condition of the nervous system. Others suffer from indigestion of varying degree, from the mildest type to the most extreme. Bloating from distention of the bowels with gas is a common symptom. This is frequently accompanied by palpitation of the heart and by cardialgia. Neuralgic areas are met with in many patients, pain being referred most often to some point in the abdomen, and to the region of the heart. The local symptoms of movable kidney vary extremely in degree. The symptom most commonly complained of is a sense of dragging or weight, which is most annoying after prolonged standing or walking. In extreme cases the patient becomes aware of the presence of the movable kidney, and recognizes it as a tumor, which is painful and annoying. Severe pain in the kidney itself is not a frequent symptom, but is met with in rare instances, being due probably to extreme congestion of the kidney from traction on the renal veins in some cases, and in others to obstruction of the ureter due to a twist or kink in this organ, giving rise to an acute hydro-nephrosis. Acute strangulation of the kidney had been reported, being due to obstruction of the renal veins by torsion of the kidney on its vessels. This condition is rare, and I have not met with it. Broadly speaking the reflex symptoms are less marked in cases having extreme displacement or mobility of the kidney. This is quite analogous to what is seen in the pelvis. Prolapsus uteri of moderate extent is accompanied by marked reflex symptoms, whereas a complete procidentia gives rise only to the local annoyance of a foreign body between the thighs, which interferes with walking. The explanation probably is, that in extreme displacement the nerves become overstretched, and that the circulation has time to adjust itself to the changed conditions.

In my experience, in probably half the cases, the mobility of the kidney does not give rise to symptoms, so that many cases of this condition will be overlooked unless routine examinations are made.

Symptoms referable to the bladder and to the sexual organs, resulting from a movable kidney, are frequently present, but are by no means constant. In the nervous or neurotic cases, a so called irritable bladder is the symptom usually complained of. When the mobility of the kidney is more extreme, and the symptoms are more purely local, attacks of pain beginning in the kidney itself, and passing along the

ureter to the bladder, are not infrequent. Variations in the amount of urine passed in the twenty-four hours, are at times due to a twisted ureter.

Dysmenorrhea is frequently associated with a movable kidney. The sensation of dragging or weight in the lower abdomen is, I am convinced, frequently attributed to pelvic disease, when it is due to a displaced kidney.

Diagnosis.—The existence of a displaced kidney may be suspected when a thin woman complains of general nervous symptoms, palpitation of the heart, indigestion, bloating, neuralgic areas, a sensation of dragging in the lower abdomen when standing, the inability to sleep when lying upon one or the other side, and finally, when pain is complained of in the renal region. The diagnosis, however, can be established only by a physical exploration, and the discovery of the kidney in its abnormal location, together with the fact of its undue mobility.

In order to establish a diagnosis of a displaced and movable kidney, its proper location must first be agreed upon, and also the degree of its mobility.

The position of the kidneys is variously stated by automatical text books. Thus Gray states that the lower border of the kidney is near the crest of the ileum, the right being lower than the left. McClellan states that the lower border of the right kidney reaches to the third lumbar vertebrae, that of the left not so low. It must not be forgotten that the results of the investigations upon the dead and the living may vary; at all events, I am not disposed to accept these statements as to the usual location of the kidneys. In three-fourths of the cases examined by myself the kidney could not be palpated; in other words, neither kidney extends below the margin of the ribs. We must not forget, however, that the angle between the last rib and the spinal column is an acute one, well filled in by thick muscles, and that the kidney might extend slightly below the border of the rib at its junction with the vertebrae, without being apparent upon a clinical examination. From my standpoint, however, as in three-fourths of the cases examined the kidney could not be felt, it must be accepted that its normal, or in other words its usual position, is above the lower border of the ribs. As the distance between the lower border of the ribs and the ileum varies extremely in different patients, an allowance should be made for this fact in determining whether or not a kidney is abnormally low. I have no doubt that it is normal for the kidney to extend below the border of the ribs in some of these cases.

The kidney is normally a movable organ, which descends with



each inspiration, and ascends with each expiration; therefore, we must have some standard to determine whether or not a given kidney is abnormally movable. A kidney may be displaced but not movable. It may be fixed in its abnormal position by adhesions. Doubtless in some cases it is congenitally located in an abnormal position, and gives rise to no symptoms, having in this case only its normal mobility. I would suggest as a criterion to determine whether or not a kidney is abnormally movable, the fact that it fails to ascend during expiration. When kidneys are very movable and much displaced their position is but slightly influenced by respiration.

For some years, in my practice, I searched in vain for movable kidneys. During that time I followed the method of examining the patient when she was lying on her back. I understand now why I failed to find the movable kidneys. It was because that in this position they slipped up above the margin of the ribs. In my entire experience I have felt not more than half a dozen kidneys with the patient lying on her back. These were cases of extreme displacement of long standing.

It occurred to me that by examining the patient standing the diagnosis could more easily be made, and experience has shown that this was one thing lacking in my previous investigations. The examination should be conducted as follows: The patient's clothing should be loosened, all bands about the waist unfastened, and the skirts supported by a nurse or assistant, so that the patient will not be embarrassed with the fear that her clothing will fall off. She should then stand before a table or desk of convenient height, about thirty inches, with the examiner seated upon her right. The patient then bends forward from the hips, and supports some of her weight by resting her hands upon the table. She is directed to respire regularly, care being taken to relax herself thoroughly during expiration. The examiner's left hand is placed against the lumbar region posteriorly, and his right hand in a corresponding position in front of the kidney. By a conjoint manipulation the region between the two hands can be carefully palpated, and if present the kidney is easily recognized. The points to be looked for are the shape and size of the kidney, and the fact that it can be readily displaced upwards beneath the margin of the ribs, and that it will return to its former location so soon as the examiner's hands no longer support it. When the kidney is compressed, as a general rule the patients complain of tenderness or pain of a peculiar character, and often make the statement that the pain causes them to feel faint or somewhat nauseated.

The kidney must be differentiated from pelvic tumors, from tumors

of the bowel, from the displaced liver, and from the distended gall-bladder. Pelvic tumors can be excluded as a rule, because their range of mobility is downward rather than upward. The contour of the tumor is also of service in differentiation. The displaced liver is much more bulky, and as a rule, the thin lower border of the liver can easily be distinguished from the rounded border of the kidney. The distended gall-bladder is to be distinguished by its small range of mobility, and usually by the history pointing to liver disease. Tumors of the bowel, usually malignant in character, might be mistaken for the movable kidney, but this is not likely, as by the time such tumors have grown sufficiently in size to be recognized by palpation, the history as a rule points definitely to the character of the disease. In all such cases, if the patient be fat the supposition is against the existence of a movable kidney.

Treatment.—The subject of movable kidney is comparatively so new, that up to the present time I have been extremely careful of my advice in such cases. I have taken every opportunity to watch the progress of the cases, and have directed treatment to the condition itself only when the sufferings of the patient absolutely demanded it. In a large percentage of the cases passing through my hands, I believe in nearly half of them, the symptoms complained of have been comparatively trifling, and symptomatic treatment has been sufficient to make the patients comfortable. That is, I have treated these patients just as I would had they presented the same symptoms with the kidney in its normal position. In these cases the good results have been due to improving the general health of the patient. As the patient's general health improved, the various nervous disturbances disappeared. In the other half of the cases, and I think the larger half, though exact notes of all the cases have not been kept, symptomatic treatment has failed absolutely in giving relief.

Believing that the normal support of the kidney is the peri-renal fat, it has seemed to me a rational plan of treatment to use such measures as will increase the body weight. I have made use of the rest cure, strictly carried out, in five cases of movable kidney, and of a modified rest cure in a number of other cases. The results obtained have not been satisfactory. The nervous symptoms disappeared for a time during and after the rest cure, but in every case they have returned to a greater or less extent. The results have been equally disappointing as to the improvement in the position or mobility of the kidney. In the future I shall recommend the rest cure only for patients having a very moderate displacement of the kidney, for example not exceeding two or at the most three inches; being guided also

somewhat by the probable duration of the displacement. It seems rational that this method of treatment should be curative in the milder cases, because while the patient remains on her back, the kidneys keep their normal position. If now the body weight be markedly increased by the increase of adipose tissue, it seems rational that a cure should be effected.

I am convinced from the experience I have had, that the rest cure will be a source of disappointment if used with the idea of curing the more severe cases. In such cases it will improve the general health, but will not markedly influence the local condition.

I have done nephrorrhaphy in but six cases, in two of these doing a double nephrorrhaphy. This experience is too small to be of special value, so that I shall merely say that the results obtained have so far been very satisfactory. In the past I have hesitated to advise nephrorrhaphy, first because I did not know from experience how much or how little could be done by non-surgical means, and second the reports from other surgeons as to the results obtained by nephrorrhaphy were conflicting. From a study of my own cases, and what I have seen in the practice of others, I believe that nephrorrhaphy is a simple and safe operation in the hands of a surgeon of experience, and that the results obtained by it are satisfactory, the symptoms due to the movable kidney are relieved, and the kidney remains permanently fixed in its new position. My own cases are so recent that they must be left out of consideration in deciding whether or not the kidney remains permanently fixed by the operation. This opinion is based upon a study of the recent literature. The percentage of cases in which the kidney again becomes displaced is quite small. In the future I shall advise nephrorrhaphy whenever the displacement is marked, and the symptoms sufficient to interfere with the patient's enjoyment of life, or the performance of her usual duties. The indication, of course, is more marked when the symptoms complained of are localized in the kidney itself, especially when the displacement leads to attacks of renal colic, or to hydro-nephrosis. In such cases destructive lesions of the kidney are apt to follow if the displacement is not corrected. Calculus, pyelitis, hydro-nephrosis and abscess of the kidney, not infrequently result from displacement of the kidney.

Conclusions.—Movable kidney is a very common condition among women. I find it in one-fourth of my own patients. Both kidneys are movable in about one-tenth of the cases.

The underlying cause of movable kidney is a deficiency of adipose tissue, especially in the peri-renal region. Tight lacing, multiple pregnancies and falls, occasionally act as contributing causes.

The symptoms of movable kidney are both reflex and local. The reflex symptoms are those at times of neurasthenia, irrespective of its cause. In other cases, nervous dyspepsia, palpitation of the heart, distention of the abdomen with gas, and neuralgic areas, are the symptoms complained of. Patients usually are unable to lie upon the side opposite to the movable kidney. The local symptoms are a sense of weight or bearing down, soreness in the kidney region, attacks of pain similar to renal colic, and in rare instances symptoms of strangulation due to torsion of the vessels of the kidney.

Movable kidney may be suspected when its rational symptoms are present, but the diagnosis must be made by a physical exploration. This should be made with the patient in a standing position. The diagnosis can be made with the patient lying on her back only in long standing cases, where the displacement is extreme, as usually in the position the kidney slips up under the margin of the ribs. In many cases movable kidney gives rise to no symptoms, and therefore does not require treatment. The rest cure promises to be efficient in cases of slight degree, as the kidney returns to its normal position while the patient is lying on her back, and the increase in fat, which the rest cure usually brings about, should effect a cure. The rest cure used in cases of long standing, with extreme displacement of the kidney, will improve the general condition of the patient, but will not improve the local trouble. Nephrorrhaphy is a simple and safe operation, which should be done in the cases having well marked displacement, that is three inches and upward. The more marked the local symptoms, the more necessary is the operation. The reported cases indicate that the results are permanent.

The object of this paper is to emphasize the great frequency of this condition, and the ease with which it can be diagnosticated. Also, to urge upon those who have not done so, the necessity for studying its relation with the various reflex and nervous symptoms met with in thin women.

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